

immobilized on a set of beads that are 4-25 microns in diameter. Putative binding partners, which may be prepared as described above or generated from a cDNA library, are co-immobilized along with their encoding DNA onto nanoparticles that bear fluorescent signaling moieties. When a bead-immobilized protein interacts with a species immobilized on nanoparticles, the bead becomes decorated with fluorescent nanoparticles and can be isolated by FACS (fluorescent activated cell sorting) analysis after which the attached DNA of each interacting species is sequenced to identify the binding partners.

[0110] Those skilled in the art would readily appreciate that all parameters listed herein are meant to be exemplary and that actual parameters will depend upon the specific application for which the methods and apparatus of the present invention are used. It is, therefore, to be understood that the foregoing embodiments are presented by way of example only and that, within the scope of the appended claims and equivalents thereto, the invention may be practiced otherwise than as specifically described. In the claims the words “including”, “carrying”, “having”, and the like mean, as “comprising”, including but not limited to.

What is claimed is:

1. A method comprising:

magnetically drawing a first article and a first chemical or biological agent immobilized relative thereto to a first location and drawing a second article to a second location;

selectively releasing the first article from the first location or releasing the second article from the second location while holding the second or first article, respectively, at its respective location.

2. A method as in claim 1, wherein the first chemical or biological agent is a drug candidate.

3. A method as in claim 1, wherein the first agent is linked to a binding partner thereof.

4. A method as in claim 1, wherein the first article is a magnetic article.

5. A method as in claim 4, wherein each of the first and second articles is a magnetic bead.

6. A method as in claim 3, comprising magnetically drawing the first article to the first location and magnetically drawing the second article to the second location; and

selectively releasing the second article from the second location while holding the first article at the first location.

7. A method as in claim 6, wherein the first and second locations are first and second predetermined areas of a surface, respectively.

8. A method as in claim 7, wherein an electromagnet is associated with each of the first and second predetermined surface areas, positioned to draw the first or second article to the first or second predetermined surface area, respectively.

9. A method as in claim 7, wherein each of the first and second predetermined surface areas comprises an electrode.

10. A method as in claim 9, wherein each of the predetermined surface areas comprises an electrode, and an electromagnet is associated with each of the first and second predetermined surface areas, positioned to draw the first or second article to the first or second predetermined surface area, respectively.

11. A method as in claim 6, the first article immobilized to a signaling entity that is immobilized relative to the binding partner.

12. A method as in claim 11, the first article carrying the first agent fastened thereto, a binding partner of the first agent linked to the first agent, and the signaling entity immobilized relative to the binding partner.

13. A method as in claim 12, wherein the first article comprises a magnetic bead, and a colloid particle is linked to the binding partner, and the second article comprises a magnetic bead carrying a second chemical or biological agent immobilized thereto.

14. A method as in claim 13, wherein the signaling entity is the colloid particle.

15. A method as in claim 13, wherein the colloid particle includes an auxiliary signaling entity immobilized relative thereto.

16. A method as in claim 15, wherein the signaling entity is a metallocene fastened to the colloid particle.

17. A method as in claim 16, wherein each of the predetermined surface areas comprises an electrode, and an electromagnet is associated with each of the first and second predetermined surface areas, positioned to draw the first or second article to the first or second predetermined surface area, respectively.

18. A method as in claim 16, wherein the metallocene is ferrocene.

19. A method as in claim 16, wherein the first article comprises a magnetic bead, and a colloid particle is linked to the binding partner, and the second article comprises a magnetic bead carrying a second chemical or biological agent immobilized thereto.

20. A method as in claim 18, wherein each of the first and second agents is a candidate drug.

21. A method as in claim 18, wherein the drawing step is carried out in the presence of a candidate drug, and each of the first and the second agents is a potential target of the candidate drug.

22. A method as in claim 3, comprising providing a plurality of magnetic beads each carrying a chemical or biological agent immobilized relative thereto;

exposing the beads to a plurality of colloid particles each carrying a potential binding partner of the chemical or biological agents;

allowing some of the colloid particles to bind to some of the magnetic beads via chemical or biological agent/binding partner interaction while leaving some of the magnetic beads free of linkage to colloid particles;

magnetically drawing the magnetic beads to a plurality of predetermined locations at a surface;

determining first surface locations at which colloid particles have been drawn and second surface locations substantially free of colloid particles; and

releasing magnetic beads from the second surface locations while holding magnetic beads at the first surface locations.

23. A method as in claim 22, further comprising removing magnetic particles released from the vicinity of the second surface locations; and

repeating one or more times the steps of magnetically drawing, determining, and releasing.